

What is claimed is:

1. A light receiving device having a condenser which generartes condensed light, comprising:

a first light receiving element, which receives the condensed light before the condensed light images; and

a second light receiving element, which receives the condensed light after the condensed light images,

wherein the first light receiving element and second light receiving element are disposed at positions equidistantly spaced from a focal point of the condensed light, and generate electrical signals based on light received by the light receiving elements,

wherein each of the first light receiving element and second light receiving element includes:

a first light receiving area, which receives a first portion of the condensed light which includes a optical axis of the condensed light;

a second light receiving area, which receives a second portion of the condensed light which is located outside of the first portion of the condensed light; and

a third light receiving area, which receives a third portion of the condensed light which is located outside of the second portion of the condensed light.

2. The light receiving device according to claim 1, wherein the first light receiving element and the second light receiving

element are symmetrical with respect to a point located between the first light receiving element and the second light receiving element.

3. The light receiving device according to claim 1, wherein a width of the first light receiving area is larger than a width of the second light receiving area.

4. The light receiving device according to claim 1, wherein a width of the third light receiving area is larger than a width of each of the first and second light receiving areas.

5. The light receiving device according to claims 1, wherein a total width of the widths of the first and second light receiving areas is 20 to 50 μ m.

6. The light receiving device according to claim 5, wherein each width of the first light receiving area and the second light receiving area are 10 to 30 μ m.

7. The light receiving device according to claim 5, wherein the width of the third light receiving area is 40 to 180 μ m.

8. The light receiving device according to claim 1, wherein the first light receiving element and second light receiving

element are located at positions spaced apart from the focal point of the light by a distance of 0.1 to 0.5mm.

9. The light receiving device according to claim 1, wherein the first light receiving element receives one of lights spectrally split by a splitter, and the second light receiving element receives the other split light.

10. The light receiving device according to claim 9, wherein the splitter is at least one of a half prism, a parallel plane element, and a hologram element.

11. The light receiving device according to claim 10, wherein in a case where a hologram is used as the splitter, a boundary line between the first light receiving area and second light receiving area, and a boundary line between the second light receiving area and third light receiving area, are substantially vertical to a grating of the hologram.

12. The light receiving device according to claim 1, wherein the condensed light is light reflected from an optical recording medium.

13. The light receiving device according to claim 12, wherein a boundary line between the first light receiving area and second

light receiving area, and a boundary line between the second light receiving area and third light receiving area, are substantially vertical to a direction of a component of the reflected light in a track direction of the optical recording medium.

14. The light receiving device according to claim 1, further comprising:

an aberration correction driver, which generates an aberration correction drive current based on the output signals of the first light receiving element and second light receiving element,

an aberration corrector, which corrects a quantity of aberration of the light reflected from the optical recording medium in accordance with the aberration correction drive current.

15. A light detecting device comprising:

an aberration amount detecting circuit, which detects an aberration amount by using the output signals of the first light receiving element and second light receiving element of the light receiving device defined by claim 1.

16. The light detecting device according to claim 15, wherein the aberration amount AB is detected by using at least one of

the following equations:

$$AB = a_+ - a_-$$

$$AB = (a_+ + b_-) - (b_+ + a_-),$$

$$AB = (a_+ + b_- + c_-) - (a_- + b_+ + c_+),$$

$$AB = (a_+ + b_+ + c_-) - (a_- + b_- + c_+),$$

$$AB = (a_+ + b_- + c_+) - (a_- + b_+ + c_-),$$

$$AB = (a_+ + b_+) - (a_- + b_-)$$

where a_+ is an output signal derived from the first light receiving area of the first light receiving element, b_+ is an output signal derived from the first light receiving area of the first light receiving element, and c_+ is an output signal derived from the third light receiving area of the first light receiving element, a_- is an output signal derived from the first light receiving area of the second light receiving element, b_- is an output signal derived from the second light receiving area of the second light receiving element, and c_- is an output signal derived from the third light receiving area of the second light receiving element.

17. A light detecting device comprising:

a focus correction amount detecting circuit for detecting a focus correction amount by using the output signals of said first light receiving element and second light receiving element of said light receiving device defined by claim 1.

18. The light detecting device according to claim 17, wherein

said focus correction amount FO is detected by using any of the following equations:

$$FO = a_+ + a_-$$

$$FO = (a_+ + b_-) - (b_+ + a_-),$$

$$FO = (a_+ + b_- + c_-) - (a_- + b_+ + c_+),$$

$$FO = (a_+ + b_+ + c_-) - (a_- + b_- + c_+),$$

$$FO = (a_+ + b_- + c_+) - (a_- + b_+ + c_-),$$

$$FO = (a_+ + b_+) - (a_- + b_-)$$

where

a_+ is an output signal derived from the first light receiving area of the first light receiving element, b_+ is an output signal derived from the second light receiving area of the first light receiving element, c_+ is an output signal derived from the third light receiving area of the first light receiving element, a_- is an output signal derived from the first light receiving area of the second light receiving element, b_- is an output signal derived from the second light receiving area of the second light receiving element, and c_- is an output signal derived from the third light receiving area of the second light receiving element.

19. An optical signal reproducing device, which reproduces a signal recorded in an optical recording medium, the optical signal reproducing device comprises the light detecting device defined in claim 15.

20. An optical signal reproducing device, which reproduces a signal recorded in an optical recording medium, the optical signal reproducing device comprises the light detecting device defined in claim 17.

21. A light receiving device having a condenser, which generates condensed light, comprising:

a first light receiving element, which receives the condensed light before the condensed light images; and

a second light receiving element, which receives the condensed light after the condensed light images,

wherein the first light receiving element and second light receiving element are disposed at positions equidistantly spaced from an focal point of the condensed light.